

Limnæa. Again, Mr. W. Doherty, writing from Cincinnati, records a remarkable dentate variety of *Conulus fulvus*; he further remarks that dentate species of *Helix* are the forms there prevalent, and points out that this formation is useful in obstructing the entrance of a grub which lives in beds of leaves and preys on small snails.

An American malacologist, Professor Wetherby, adduces evidence which goes far to prove that even malformations resulting from individual injuries may, under certain circumstances, be transmitted to the offspring.

In investigating these phenomena and their causes, I would suggest, first, that the manner of variation should be investigated and described, and, second, the exact nature of the surroundings as regards possible causes, always bearing in mind the conditions under which the species lives in its original home, and especially noting all deviations from these which may be supposed to induce the varietal character.

Among the species common to North America and Britain are the following: *Vertigo alpestris*, *V. edentula*, *Conulus fulvus*, *Helix aspersa*, *H. hortensis*, *Limnæa peregra*, *L. auricularia*, *L. stagnalis*, *L. palustris*, *L. truncatula*, *Physa fontinalis*, *Bullinus hypnorum*, *Planorbis albus* (= *P. hirsutus*, Gould), *P. glaber* (= *P. parvus*, Say).

W. A. GAIN.

Tuxford, Newark, England.

Books for Children.

IN answer to Mr. Waldo's request printed under the above heading in your issue of *Science* for June 16, let me suggest that such books as he desires are a desideratum not only for children, but for adults who, while not scientifically inclined, are yet interested in the wonders and beauties of nature. Unfortunately our attention has been too exclusively absorbed with the struggles and the problems incident to a new country for us to have time to educate the men who could study and name all our plants and animals, much less those who could translate scientific monographs into popular language. Especially in the insect world a good collector could bring in from any summer-day's excursion dozens of specimens which have never yet been christened.

But while we cannot hope for books which will enable us to attach names to everything we may find in a ramble through Nature's museum, most of the more conspicuous animals and plants have been studied, at least enough for this purpose, though the results have been put forth in scientific works. But on the stores of knowledge thus accumulated popular writers are beginning to draw to meet the demand created by our growing out-of-door life, our increased out-of-door interests. As was to be expected, plants have received the greater amount of attention. Mrs. William Starr Dana's "How to Know the Wild Flowers," just published by Charles Scribner's Sons, at \$1.50, is intended to teach one to identify the commoner flowers by color, size and shape of leaf, size of plant and so forth. Ten-year-old children would seem to me rather young to use such a book, but it is admirable for those of twelve or thirteen. Newhall's "Trees of Northeastern United States," published by G. P. Putnam's Sons, at \$2, teaches one to identify trees by the leaves, bark, and so forth. This I know from experience to be admirable for children. The same author is at work on a similar book upon shrubs, but I believe it is not yet out. I know of no such book on birds as the ones I have just suggested on plants. The best thing for children I believe to be Florence Merriam's "Birds through an Opera Glass," published by Houghton, Mifflin & Co., at 75 cents. The appendix to this little book contains lists giving form, color, size, habits, song, flight, nest, and so forth of our common birds. A fuller and altogether admirable book on birds is Minot's "Song and Game Birds of New England," published, I believe, by Casino, at \$2.50 or \$3. The best book on insects is one which Professor Comstock, of Cornell University, has in hand. It will probably be out now in the course of a very few months. Prepared especially for the school children of California, it is written in a manner attractive to children and will contain tables by which any insect may be traced to its proper fam-

ily. Farther than this it would be hardly possible for a child to go, as the characteristics on which genera and species are founded are often so difficult of observation that the best tables which could be prepared would be only a source of perplexity and worry.

After all the best method of teaching children is that which Mr. Waldo quotes as employed by his former teacher. And there are many books which occur at once to the mind of any teacher as valuable aids to the parent who wishes to work with his child. I have not named these because I understood the request to be for books which the child could use alone. But I should be happy at some future time to extend my list if it is not done by some other person better qualified for the task.

M. A. WILLCOX,

Professor of Zoölogy, Wellesley College.

Two Queries.

AN incident of a recent personal experience may interest those of your readers who are studying the subject of mimicry. On the 21st of May last, I was botanizing with two companions in the thinly populated sand-dune region at the south end of Lake Michigan, and about forty miles east of Chicago, when the event I am about to relate occurred. I was walking rather in advance of my companions across a level area that separated two series of high dunes, when I accidentally stepped upon two large snakes which were lying close together, doubtless enjoying the warm sunshine. It was a case of mutual surprise, and as the snakes, or one of them, suddenly sprang upward into unpleasant proximity to my face, I only a little less suddenly sprang backward, believing for the instant that I had encountered a rattlesnake. I soon discovered, or thought I did, that the reptiles were only fine specimens of the kind of black snake, popularly called the blue racer. One of the two had been considerably hurt by my heavy tread, and with violent contortions of his body made what haste he could to a hole about six feet distant, and disappeared in it. The other was uninjured and crawled rather leisurely away in another direction to a distance of twenty feet or more, and then lay quiet, watching our movements. Irritated by the violent start I had received, and cherishing no great love for snakes in general, I seized a club, and, while his snakeship lay broadside to me, I aimed a vigorous blow at him. I was again surprised, even more so than before, though in a different way, for with lightning rapidity the lithe reptile dodged the blow which otherwise would have struck him near the middle of the body, and instantly threw himself into a coil precisely resembling that of a rattlesnake when about to strike, and shook his erected tail with such vigor and rapidity that it was scarcely more distinctly visible than the spokes of a bicycle wheel when propelled by a fast rider. At the same time a sound was emitted, less shrill perhaps, but continuous and distinctly similar to that produced by the rattlesnake. Whether the sound was produced by the very rapid vibration of the tail, assisted perhaps by its scaly covering, or whether it was a hiss produced in the ordinary manner, I am of course unable to say. So close was the mimicry that I was for the moment almost deceived into the belief that I had mistaken a rattlesnake for a racer. The illusion was soon dispelled however, for a stick which I threw at him hit him on the head and stunned him, and I then had the opportunity to scrutinize him closely and verify my first conclusion.

I have frequently heard of other constrictor snakes mimicking venomous ones, in fact have occasionally observed such mimicry myself, but never before in this species and never in such perfection. It would be interesting to know if others have observed the habit in this species.

On the same trip another fact of interest came under our observation. The region visited contains many ponds and lagoons, and in these turtles (mainly *Chrysemys picta*, Ag. and *Nanemys guttatus*, Ag.) abound. About these ponds, often many rods from the water, were the remains of hundreds of turtles that had evidently all been killed since the opening of the spring, and some of them within a few hours. The dead turtles varied in size from those with carapaces two inches long to those fully six inches in